

LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series  
Treated-Engineered-Wood Lap & Panel Siding  
Louisiana-Pacific Corporation

PR-N124

Revised July 1, 2011

Product: LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series Treated-Engineered-Wood Lap and Panel Siding  
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1. Basis of the product report:
  - 2009 and 2006 International Building Code: Section 104.11 Alternative Materials
  - 2009 and 2006 International Residential Code: Section R104.11 Alternative Materials
  - ICC-ES Acceptance Criteria for Treated-Engineered-Wood Siding, AC 321
  - APA PRP-108 Performance Standards and Qualification Policy for Structural-Use Panels
  - NES Evaluation Protocol for Determination of Flood-Resistance Properties of Building Elements
  - APA Reports R&D 87Q-1, T87Q-45, T91Q-11, T91Q-20, T97Q-4, T97Q-10, T98Q-13, T98Q-17, T99Q-23, T2008Q-12, T2008P-73, T2008P-74, T2009Q-54, and other qualification data.

2. Product description:

Louisiana-Pacific Corporation (LP<sup>®</sup>) SmartSide<sup>®</sup> Precision Treated-Engineered-Wood Lap and Panel siding is overlaid with a resin treated paper and is available with either a smooth or embossed surface texture. The siding is available as laps or panels. The siding is treated with Zinc Borate for decay and insect resistance. All edges are factory sealed with a primer.

LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series Treated-Engineered-Wood lap siding is available in nominal thicknesses of 3/8 and 7/16 inch, in nominal widths of 6, 8 and 12 inches and in lengths up to 16 feet.

LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series panel siding is available in thicknesses of 3/8, 7/16 and 19/32 inch, 4-foot width and in lengths of 8, 9, and 10 feet. The 3/8-inch-thick panels are available without grooves or with grooves spaced 8 inches on center. The 7/16-inch-thick panels are available without grooves or with grooves spaced either 4 or 8 inches on center. The 19/32-inch panels are available with grooves spaced either 4 or 8 inches on center. Minimum thicknesses at the groove and shiplap are documented in the plant Quality Manual.

3. Design properties:

Allowable racking loads for LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series panel siding are listed in Table 1. For 3/8-inch-thick panels nailed at shiplap edges, use 5/16-inch shear values. For 7/16- and 19/32-inch-thick panel sidings nailed at shiplap edges, use 3/8-inch shear values. Allowable wind loads LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series lap and panel siding are listed in Tables 2 and 3, respectively.
4. Product installation:

LP<sup>®</sup> SmartSide<sup>®</sup> Precision Series Treated-Engineered-Wood Lap and Panel sidings shall be installed in accordance with recommendations provided by the manufacturer ([www.lpcorp.com/smartside/lap/](http://www.lpcorp.com/smartside/lap/)), and ([www.lpcorp.com/smartside/panel/](http://www.lpcorp.com/smartside/panel/)) and APA Design & Construction Guide: *Engineered Wood Construction Guide*, Form E30 ([www.apawood.org/publications](http://www.apawood.org/publications)). The maximum span shall be in accordance with the Span

Rating shown in the trademark. The LP® SmartSide® Precision Series lap siding shall be permitted to be installed over the facer of structural insulated panels (SIPs) in accordance with Table 4.

5. Fire-resistant construction:  
Wood structural panels that are not fire-treated have been shown to meet a Class III (or C) category for flame spread. Where otherwise specified, fire-resistant construction shall be in accordance with the recommendations in APA Product Guide: *Fire-Rated Systems*, Form W305 (see link above).
6. Flood resistance evaluation:  
Selected properties critical to flood resistance of 3/8- and 7/16-inch-thick panel siding, including uniform loads, concentrated static loads, concentrated hard body and soft body impact loads, fastener performance, wall racking resistance, edge thickness swell, linear expansion, hygroscopicity, exterior bond performance and large panel and small specimen bending properties were evaluated at a 16 o.c. Span Rating in accordance with *NES Evaluation Protocol for Determination of Flood-Resistance Properties of Building Elements*. Test results in the dry (as-received) condition and after moisture cycling in accordance with the NES protocol were compared to the requirements specified in ICC Evaluation Service (ICC-ES) *Acceptance Criteria for Treated-Engineered-Wood Siding* (AC321).
7. Limitations:
  - a) LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel siding used outdoors must be finished in accordance with recommendations provided by the manufacturer (see links above) and APA Design & Construction Guide: *Engineered Wood Construction Guide*, Form E30 (see link above).
  - b) LP® SmartSide® Precision Series Treated-Engineered-Wood panel siding is flood resistant on the following properties: uniform loads, concentrated static loads, concentrated hard body and soft body impact loads, fastener performance, wall racking resistance, edge thickness swell, linear expansion, hygroscopicity, exterior bond performance and large panel and small specimen bending properties. This evaluation applies to 3/8- and 7/16-inch-thick panel siding at a 16 o.c. Span Rating.
  - c) LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel siding is produced at Louisiana-Pacific Corporation facilities at Hayward, WI, Newberry, MI, Tomahawk, WI, and Two Harbors, MN under a quality assurance program audited by APA.
  - d) This report is subject to re-examination in one year.
8. Identification:  
LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel siding described in this report is identified by a label bearing the manufacturer's name (Louisiana-Pacific Corporation) and/or trademark, the APA assigned plant number (357 for the Hayward plant, 416 for the Newberry plant, 435 for the Tomahawk plant, or 399 for the Two Harbors plant), the product thickness, the Span Rating, the Exposure Rating, the APA logo, the report number PR-N124, and a means of identifying the date of manufacture.

Table 1. Allowable Racking Shear (plf) for LP® SmartSide® Precision Series Treated-Engineered-Wood Panel Siding – Sheathing Shear Walls with Framing of Douglas-Fir-Larch or Southern Pine for Wind or Seismic Loading<sup>(1,2,3)</sup>

Minimum Nominal Panel Thickness (in.)	Minimum Nail Penetration In Framing (in.)	Panels Applied Directly to Framing				Panels Applied over 1/2-inch or 5/8-inch Gypsum Sheathing					
		Nail Size (Common or Galvanized Box)	Nail Spacing at Panel Edges (in.)				Nail Size (Common or Galvanized Box)	Nail Spacing at Panel Edges (in.)			
			6	4	3	2 <sup>(4)</sup>		6	4	3	2 <sup>(4)</sup>
5/16 <sup>(5,6)</sup>	1-1/4	6d	180	270	350	450	8d	180	270	350	450
3/8 <sup>(5,6)</sup>			200	300	390	510		200	300	390	510
3/8 <sup>(5,6)</sup>	1-1/2	8d	220	320	410	530	10d	260	380	490 <sup>(4)</sup>	640
7/16 <sup>(5)</sup>			240	350	450	585		260	380	490 <sup>(4)</sup>	640
19/32 <sup>(5)</sup>	1-5/8	10d	340	510	665 <sup>(4)</sup>	870	-	-	-	-	-

For **SI**: 1 inch = 25.4 mm, 1 plf = 14.6 N/m.

- (1) For framing of other species: (a) Find specific gravity for species of lumber in AF&PA National Design Specification; (b) find shear value from table for nails size; (c) multiply value by 0.82 for species with specific gravity greater than or equal to 0.42 but less than 0.49, or 0.65 for species with specific gravity less than 0.42.
- (2) All panel edges must be backed with 2-inch nominal or wider framing. Panels must be installed with the long dimension oriented in the vertical direction. Space nails 6 inches o.c. along intermediate framing members for 3/8-inch and 7/16-inch panels installed on studs spaced 24 inches o.c. For other conditions and panel thicknesses, space nails 12 inches o.c. on intermediate supports.
- (3) For shear loads of normal or permanent load duration, the values in the table shall be multiplied by 0.63 or 0.56, respectively.
- (4) Framing at panel edges must be 3 inches nominal or wider and nails must be staggered where nails are spaced 2 inches o.c., and where 10d nails having penetration into framing of more than 1-5/8 inches are spaced 3 inches or less, o.c. **Exception:** Unless otherwise required, 2-inch nominal framing may be used where full nailing surface is available and nails are staggered.
- (5) Except as noted in Footnote 7, panel thickness at point of nailing at panel edges determines applicable shear values, except that 3/8-inch-thick panels nailed at shiplap edges use 5/16-inch shear values, and 7/16- and 19/32-inch-thick panel sidings nailed at shiplap edges use 3/8-inch shear values.
- (6) Shiplap edges must be double-nailed; one nail must be placed in the underlap and a second nail must be placed in the overlap at the nail spacing specified for the applicable shear value.
- (7) Fasteners must not be installed in panel siding grooves in the field of the panel siding or when the panel siding grooves occur at cut edges of the panel siding.

Table 2. Lap Siding – Maximum Allowable Transverse Wind Load<sup>(1)</sup>

Minimum Siding Thickness (in.)	Maximum Wall Stud Spacing <sup>(2)</sup> (in.)	Siding Width (in.)	Maximum Allowable Load (psf)	Maximum Wind Speed <sup>(3)</sup> (mph) (IBC & IRC)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	80	170	145	130
		8	63	150	130	120
		12	40	120	105	90
7/16	16	6	80	170	145	130
		8	63	150	130	120
		12	40	120	105	90
	24	6	58	145	125	110
		8	42	125	105	100
		12	27	100	85	-

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

- (1) One fastener per stud located 1/2 inch from the top edge of the siding. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
- (2) Wall studs must have a minimum specific gravity of 0.42.
- (3) Three-second-gust; based on a building height of 40 feet, Zone 5, and an importance factor of 1.0 in accordance with ASCE 7 Section 6.4.2.2 (Component and Cladding) and IRC Section R301.2.1.

Table 3. Panel Siding – Maximum Allowable Transverse Wind Load

Minimum Siding Thickness (in.)	Maximum Wall Stud Spacing <sup>(2)</sup> (in.)	Fastener Spacing <sup>(1)</sup> (in. o.c.)		Maximum Allowable Load (psf)	Maximum Wind Speed <sup>(3)</sup> (mph) (IBC & IRC)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	38	110	100	90
			6	75	150	140	130
	24	6	12	25	90	-	-
			6	50	130	110	105

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

- (1) Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
- (2) Wall studs must have a minimum specific gravity of 0.42.
- (3) Three-second-gust; based on a building height of 40 feet, Zone 5, and an importance factor of 1.0 in accordance with ASCE 7 Section 6.4.2.2 (Component and Cladding) and IRC Section R301.2.1.

Table 4. Lap Siding Installed Over the Facer of SIPs<sup>(1)</sup> – Maximum Allowable Transverse Wind Load<sup>(2)</sup>

Minimum Siding Thickness (in.)	Maximum Ring Shank Nail Spacing <sup>(3)</sup> (in.)	Maximum Wood Screw Spacing <sup>(4)</sup> (in.)	Siding Width (in.)	Maximum Allowable Load (psf)	Maximum Wind Speed <sup>(5)</sup> (mph) (IBC & IRC)		
					Wind Exposure Category		
					B	C	D
3/8	8	12	6	80	170	145	130
			8	63	150	130	120
			12	40	120	105	90
7/16	12	16	6	58	145	125	110
			8	42	125	105	100
			12	27	100	85	-

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

- (1) The facer of the structural insulated panels (SIPs) shall be 7/16-inch or thicker OSB sheathing meeting DOC PS2 requirements.
- (2) The tabulated values represent the capacity of the LP Lap Siding installed in accordance with the requirements of this table. **The tabulated wind speed shall not exceed the SIP capacity for wind load resistance.**
- (3) One 6d ring shank nail (0.120 inch in diameter) located 1/2 inch from the top edge of the siding. The ring shank nails must have a minimum head diameter of 0.297 inch, a minimum shank diameter of 0.120 inch and a minimum length of 2 inches.
- (4) One #8 wood screw (0.164 inch in diameter) located 1/2 inch from the top edge of the siding may be used. The wood screws must have a minimum head diameter of 0.297 inch, a minimum shank diameter of 0.164 inch and a minimum length of 2 inches.
- (5) Three-second-gust; based on a building height of 40 feet, Zone 5, and an importance factor of 1.0 in accordance with ASCE 7 Section 6.4.2.2 (Component and Cladding) and IRC Section R301.2.1.

APA – *The Engineered Wood Association* is an accredited certification body under ISO 65 by Standards Council of Canada (SCC) and an accredited inspection agency by the International Code Council (ICC) International Accreditation Service (IAS) under ISO/IEC 17020. APA is also an accredited testing organization recognized by IAS and SCC under ISO/IEC 17025. APA is a recognized testing laboratory by Miami-Dade County, and a Product Testing Laboratory, Product Quality Assurance Entity, and Product Validation Entity by the Florida Department of Community Affairs (DCA).

**APA – THE ENGINEERED WOOD ASSOCIATION  
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